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PUBLIC SERVICES AND FACILITIES ELEMENT

of The

ARVIN GENERAL PLAN

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PUBLIC SERVICES AND FACILITIES ELEMENT
OF THE
CITY OF ARVIN - GENERAL PLAN
COUNTY OF KERN, CALIFORNIA

The preparation of Maps and Report was financed in part through an Urban Planning Grant from the Housing and Home Finance Agency, under the provisions of Section 701 of the Housing Act of 1954, as Amended.

January, 1972

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RESOLUTION NO. 3-72

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ARVIN, STATE OF CALIFORNIA, APPROVING AND ADOPTING THE HOUSING ELEMENT, LAND USE ELEMENT, CIRCULATION ELEMENT, AND PUBLIC SERVICES AND FACILITIES ELEMENT OF THE GENERAL PLAN FOR THE CITY OF ARVIN.

WHEREAS, the Planning Commission of the City of Arvin did present to the City Council their recommendation and approval of the Housing Element, Land Use Element, Circulation Element, and Public Services and Facilities Element of the General Plan for the City of Arvin, and

WHEREAS, pursuant to Government Code Section 65300 et seq., the said Council gave required notice and did hold public hearing on the 24th day of January, 1972, for the purpose of considering the adoption of the Housing Element, Land Use Element, Circulation Element, and Public Services and Facilities Element of the General Plan reports and maps, at which public hearing the Housing Element, Land Use Element, Circulation Element, and Public Services and Facilities Element of the General Plan were explained and reported upon; and

WHEREAS, said elements of the General Plan reports and maps are necessary for the sound future of community development, the preservation of community and city-wide values and the promotion of general health, safety, convenience and the welfare of the citizens of the City of Arvin; and

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The City Council does hereby approve and adopt the Housing Element, Land Use Element, Circulation Element, and Public Services and Facilities Element of the General Plan for the City of Arvin.

2. The City Clerk endorse and file a copy of report and maps, attesting to this Council's adoption;

3. A certified copy of said elements of the General Plan, reports and maps, together with a certified copy of this resolution, be delivered to the Planning Commission of the County of Kern.

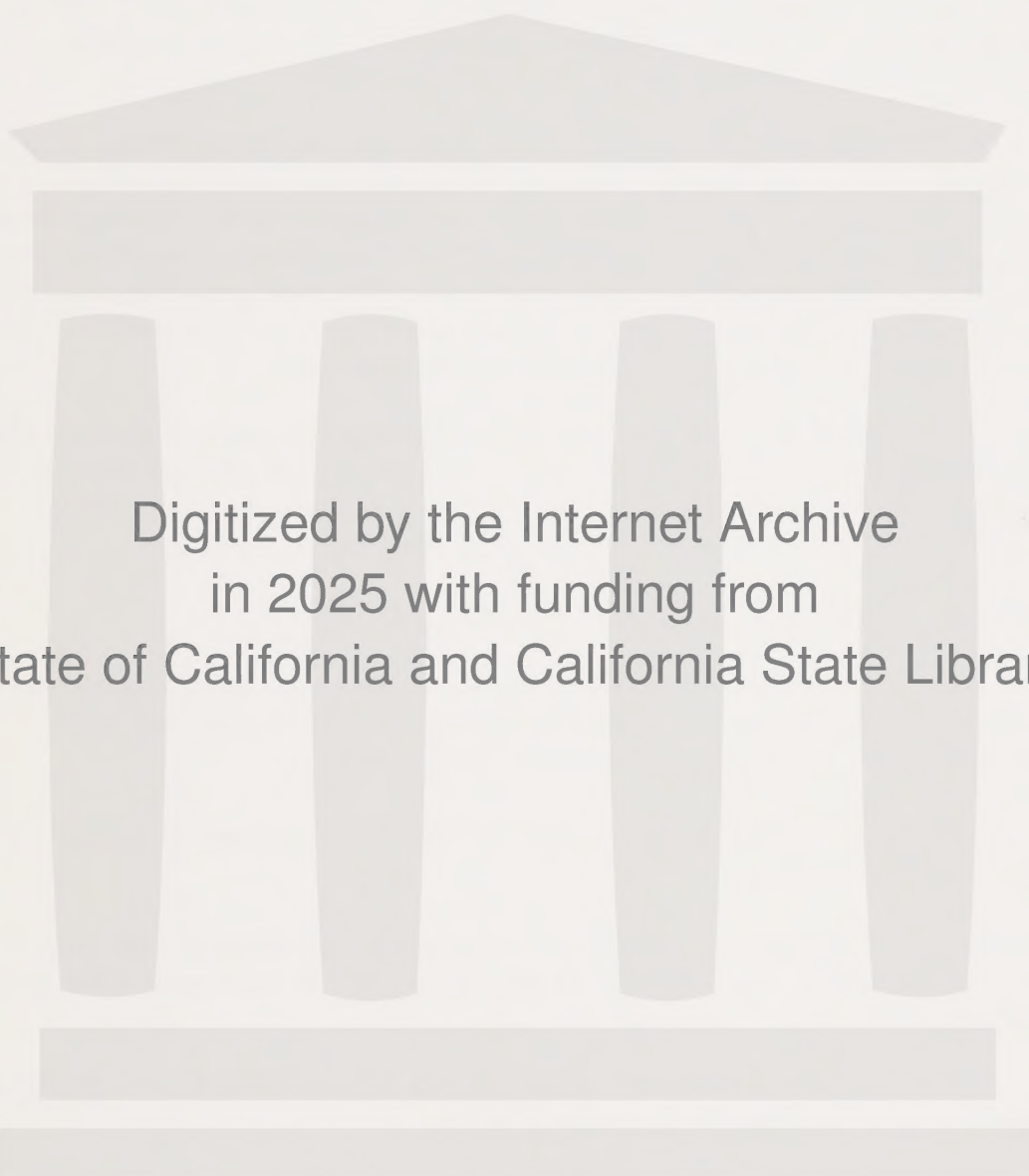
PASSED, APPROVED AND ADOPTED THIS TWENTY-FOURTH DAY OF JANUARY, 1972, BY THE FOLLOWING VOTE:

AYES: Fox, Giese, Nielsen, Ortiz, Smothermon

NOES: None

ABSENT: None

/s/ Elmer Smothermon
Mayor of the City of Arvin,
California



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ATTEST:

/s/ V. M. Collens
City Clerk

I, the undersigned, City Clerk of the City of Arvin DO HEREBY CERTIFY that the foregoing is a true and accurate copy of Resolution No. 3-72 duly passed and adopted by the City Council of the City of Arvin, California on the date and by the vote indicated therein.

/s/ V. M. Collens
City Clerk of the City of
Arvin, California

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LIST OF MAPS

<u>Map No.</u>	<u>Title</u>
A	Principal Facilities of year 2000 - Water System
B	Principal Facilities of year 2000 - Wastewater System
C	Principal Facilities of year 2000 - Drainage System

BASIC ABBREVIATIONS USED IN REPORT

gpcd	gallons per day per capita
MGD	million gallon per day
AF/Y	acre feet per year
L.F.	lineal feet
V.C.P.	vittrified clay pipe

I INTRODUCTION

This element of Arvin's General Plan is concerned with those portions of public services and facilities which are related to potable water supply, wastewater disposal and controlling storm drainage.

The importance of this element is becoming more and more recognized by County and Municipal governments as a necessary part of a community's development. In addition it is a mandatory requirement by the Federal Government prior to their participation in financing capital improvement programs. Economic growth of a community is greatly influenced by the quality of such services provided.

The reader of this report should bear in mind that the contents are general in nature i.e. the size and location of proposed improvements are for planning and budgeting purposes. Prior to construction a detailed evaluation must be performed. In addition this report must be updated annually, as necessary, to reflect actual changes in land use, population, etc.

The area investigated for this report encompasses the General Plan Area as shown in the City's Land Use Element consisting of approximately 830 acres. A much larger area of influence is projected for the City which includes 9 sections or roughly 5, 760 acres. It is impracticable at this time to develop a potable water supply, wastewater facilities or storm drainage improvements within the larger area until such time as portions are planned to become urbanized.

TABLE I

Year 2000 Land Use

<u>Classification</u>	<u>Acres*</u>	<u>Population</u>
R-1	335	3,100
R-2	135	2,500
Residential Reserve	165	--
Industrial	20	--
Commercial	70	--
Parks	30	--
Schools	25	--
Agricultural	20	--
Miscellaneous	<u>30</u>	<u>--</u>
TOTALS	830	5,600

* Gross area

II WATER SUPPLY

A. EXISTING SYSTEM

Arvin Community Services District has the responsibility for furnishing the City with water. Their system consists of four wells with a combined capacity of 3520 gpm and a 75,000 gallon elevated storage tank to meet peak demand periods. Two of the four wells are at the base of the tank and the others are located across town.

The transmission system consist of 8 and 10 inch pipe while the distribution is primarily 4 and 6 inch pipe with an occasional 2 and 3 inch main. The system is entirely metered.

B. HISTORICAL DEMAND

In 1970 the metered customers averaged 187.0 gpdc (gallons per day per capita). One possible cause of the high average demands is lawn irrigation. Information for past usage was not received which limits the determination of the city's consumption trends. Good records are a water district's greatest asset. Future system expansion and planning depend on the records kept by the District.

C. FUTURE DEMAND

Water demand normally increases due to improved systems and new water using appliances. The trend is expected to continue but at a lesser rate. Arvin is expected to raise their annual consumption rate to 200 gpdc.

The projected population for Arvin remains fairly constant through the year 2000 with only small fluctuations which bring the average daily demand to 1.12 MGD and maximum month's daily usage to 2.0 MGD.

The required fire flow for Arvin is 2500 GPM with a storage capacity of 1.5 MG. Pumping capacity is proposed as a substitute for storage and the construction of additional wells is recommended to meet fire demand requirements.

D. SOURCES

Presently Arvin is using wells for their water supply and should continue to use this source in the future. There has been no indication that any alternative sources should be established.

E. PROPOSED FACILITIES

To meet the demand of fire flow plus maximum month requirements, four additional wells will be needed. The wells are located to provide two-directional flow in the distribution system which will allow greater quantities of water to flow to high usage areas.

Three 8-inch main extensions are recommended for the improvement of distribution system to carry water to high consumption locations without excessive pressure loss. Map A shows the locations of these mains and suggested well locations.

F. CAPITAL IMPROVEMENTS

Cost estimates for the various recommended water facilities are summarized in Table 2. These estimates are necessarily preliminary in nature, since a final estimate of a project would require its complete and detailed design. However,

the estimated costs, when adjusted to reflect changing economic trends, are believed sufficiently accurate for planning purposes.

TABLE 2

Estimated Costs for Improvements - Water

<u>ITEM</u>	<u>QUANTITY</u>	<u>COST</u>
Wells	4	\$125,000
8-inch pipe	11,000 L.F.	<u>125,000</u>
Construction Cost		\$250,000
Legal, Engr., Cont'g.		<u>75,000</u>
PROJECT COST		\$325,000

III WASTEWATER SYSTEM

A. EXISTING FACILITIES

The Arvin County Sanitation District operates the sewer system under the jurisdiction of the Kern County Board of Supervisors. The system consists of 1.25 MGD aerobic treatment plant utilizing crop irrigation for final disposal of wastewater. The District owns 40 acres at the plant site for this purposes and currently has the use of an additional 200 acres. The District should consider acquiring an additional 100 acres, minimum, for disposal of wastewater treatment plant effluent. It is advisable to obtain more acreage to provide a permanent disposal site.

The collection system consists of 10 through 15 inch sewers that carry the wastewater to the treatment plant. Map B shows the existing facilities. The collection mains are 6 and 8-inch pipes. The system is a young one and has good construction.

B. HISTORICAL PRODUCTION

The residents of Arvin average 88 gpcd which is a good rate for domestic sewage production. The collection system does not have infiltration or high wastewater producers. Good records are one of the important assets a District can have for planning purposes.

C. FUTURE PRODUCTION

In similar areas, the past decades have shown an increase in wastewater production. New water using appliances such as washing machines and dish washers and an improved water system with proper pressure have caused a continual increase in production rates. The trend should continue for the future decades although more gradually than the last decade. Arvin should be producing 100 gpdc by the year 2000.

D. TREATMENT

The Central Valley Water Quality Control Board has stated in their April 1971 "Interim Water Quality Management Plan" that land disposal is the desired method. The practice of discharging to water courses and the use of evaporation ponds will be repressed. Land disposal can utilize primary treated wastewater if nuisance and obnoxious conditions are prevented.

E. PROPOSED FACILITIES

The existing system was designed for a larger population than exists presently, and will handle a minimum of 10,000 people upward to 12,500 people. Therefore, no new additions will be needed to the system to meet the demands of the year 2000.

IV STORM DRAINAGE FACILITIES

A. GENERAL

The Arvin planning area consists of the present corporate limits of the City of Arvin and some adjacent land. Arvin lies within an alluvial plain of highly permeable soil and has a general slope of approximately 1/2% north to south. Due to agricultural usage and the nature of the soils, little runoff from areas to the north enters the planning area.

B. DESIGN CRITERIA

1. Hydrology

The Kern County Public Works Department has prepared curves for determining rainfall intensities for various storm frequencies and annual rainfall rates. These, in conjunction with runoff coefficients applicable to the drainage areas, were used in preparing this report.

2. Storm Frequency

The selection of a design storm frequency must consider the economics of a system which will result in a realistic cost for the drainage facilities versus the probable damage caused by runoff from a greater storm frequency. In general for urban areas without natural watercourses, a ten year frequency fulfills these requirements. Therefore, a ten year frequency has been selected for use in the Arvin area.

3. Runoff Coefficients

The United State Department of Agriculture, Soil Conservation Service has classified the soils in Kern County into four basic hydrologic soil groups. Curves

for runoff coefficients dependent upon land use have been developed for the various soil classifications and the appropriate curves used in this report.

The soil groups are:

Group A - Soils having high infiltration rates even when thoroughly wetted, consisting chiefly of deep to excessively well drained sand and/or gravel.

Group B - Soils having moderate infiltration rates when thoroughly wetted, consisting chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures.

Group C - Soils having slow infiltration rates when thoroughly wetted, consisting chiefly of soils with a layer that impedes the downward movement of water, or soils with moderately fine to fine texture.

Group D - Soils having very slow infiltration rates when thoroughly wetted, consisting chiefly of:

- (a) Clay soils with a high swelling potential.
- (b) Soils with a high permanent water table.
- (c) Soils with clay pan or clay layer at or near the surface.
- (d) Shallow soils over nearly impervious materials.

4. Land Use

The amount of runoff from an area depends upon the type of land use or development within the area. Land uses in Arvin have been combined into three

major categories for determining runoff as follows:

1. Agricultural (Ag) includes parks, farmland and residential reserves.
2. Residential (R-1) includes areas with four to twelve families per acre, as well as schools.
3. Commercial (C) includes commercial, office and industrial development.

C. EXISTING FACILITIES

Street flow, roadside ditches and closed conduit carry the runoff south and west into open agricultural lands. The retarding basin of approximately one acre at Franklin Street and Walker Street is adequate to retain a 10-year storm frequency runoff from its local tributary area.

D. PROPOSED FACILITIES

The purpose of this portion of the report is to recommend a system to fulfill the principal drainage requirements for the Arvin Planning Area. Streets in Arvin carry the major portion of storm runoff, and additional facilities consisting of closed conduit will be required in Franklin Street, Meyer Street, and Sycamore Road. Although the existing sump at Franklin Street and Walker Street is adequate, it is proposed to be ultimately abandoned and the land redeveloped for other use.

An open earth channel approximately 4600 feet in length is proposed from Meyer Street and Sycamore Road south to the existing natural drainage course. The existing and proposed drainage facilities are shown on Map C.

E. CAPITAL IMPROVEMENTS

Cost estimates for the various recommended drainage facilities are summarized in Table 3. These estimates are necessarily preliminary in nature, since the final estimate of a project would require its complete and detailed design. However, the estimated costs, when adjusted to reflect changing construction trends, are believed sufficiently accurate for planning purposes.

TABLE 3

Estimated Capital Improvement Costs - Drainage

660 feet of 18-inch RCP	\$ 18,000
1,320 feet of 24-inch RCP	40,000
3,240 feet of 30-inch RCP	106,000
720 feet of 48-inch RCP	30,000
Channel Excavation	<u>6,000</u>
Estimated Construction Cost*	\$200,000
Contig., admins., Engr., etc.	52,000
Channel R/W (4 acres)	<u>8,000</u>
Estimated Project Cost	\$260,000

*Cost includes storm drain appurtenances, such as catch basins, catch basin connection pipe conduits, manholes, etc.

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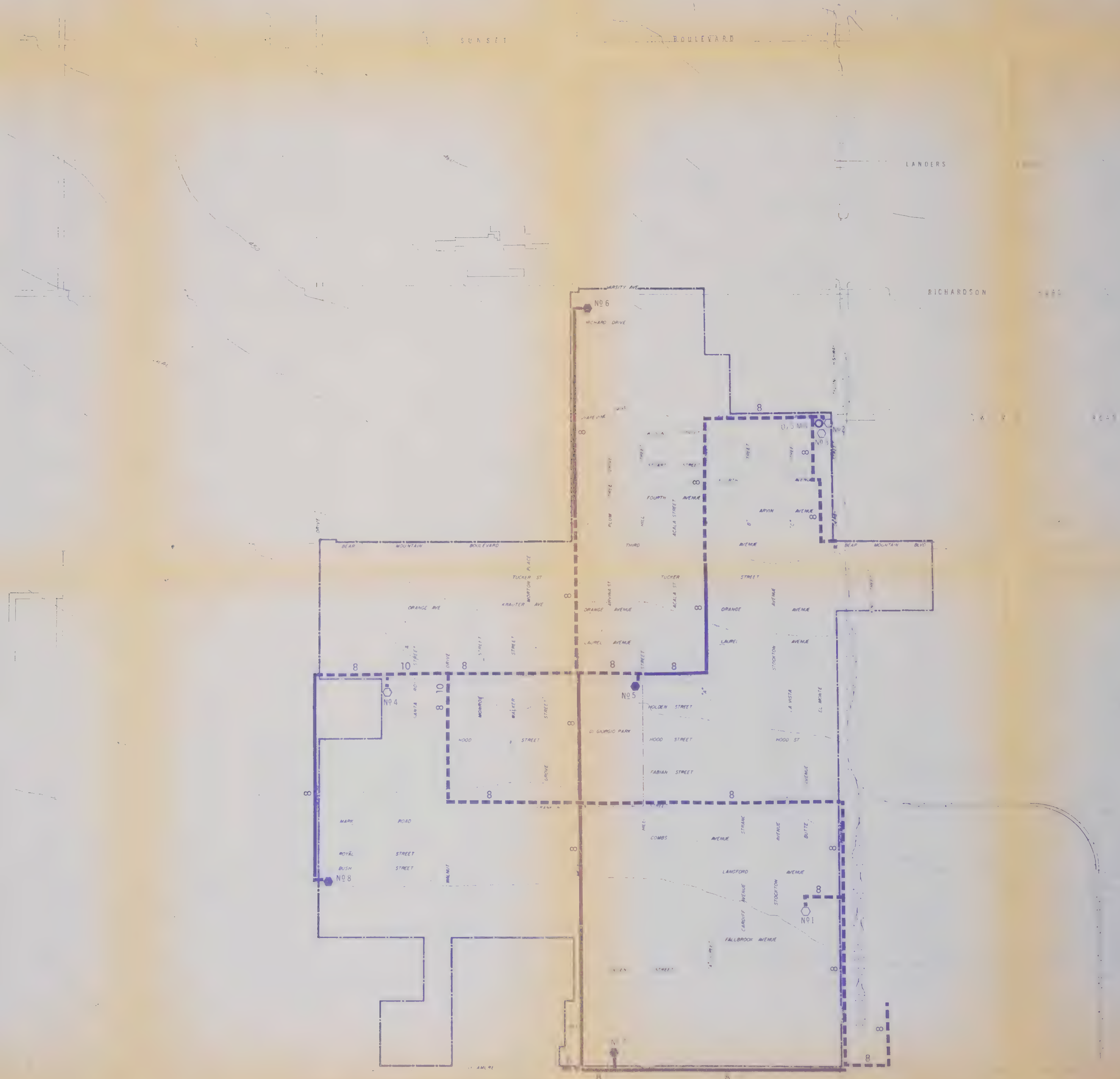
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GENERAL PLAN
PRINCIPAL FACILITIES OF
YEAR 2000 WATER SYSTEM

LEGEND

- Existing Water Lines, 8" and larger
- Proposed Water Lines, 8" and larger
- Existing Storage Facilities
- Existing Water Wells
- Proposed Water Wells



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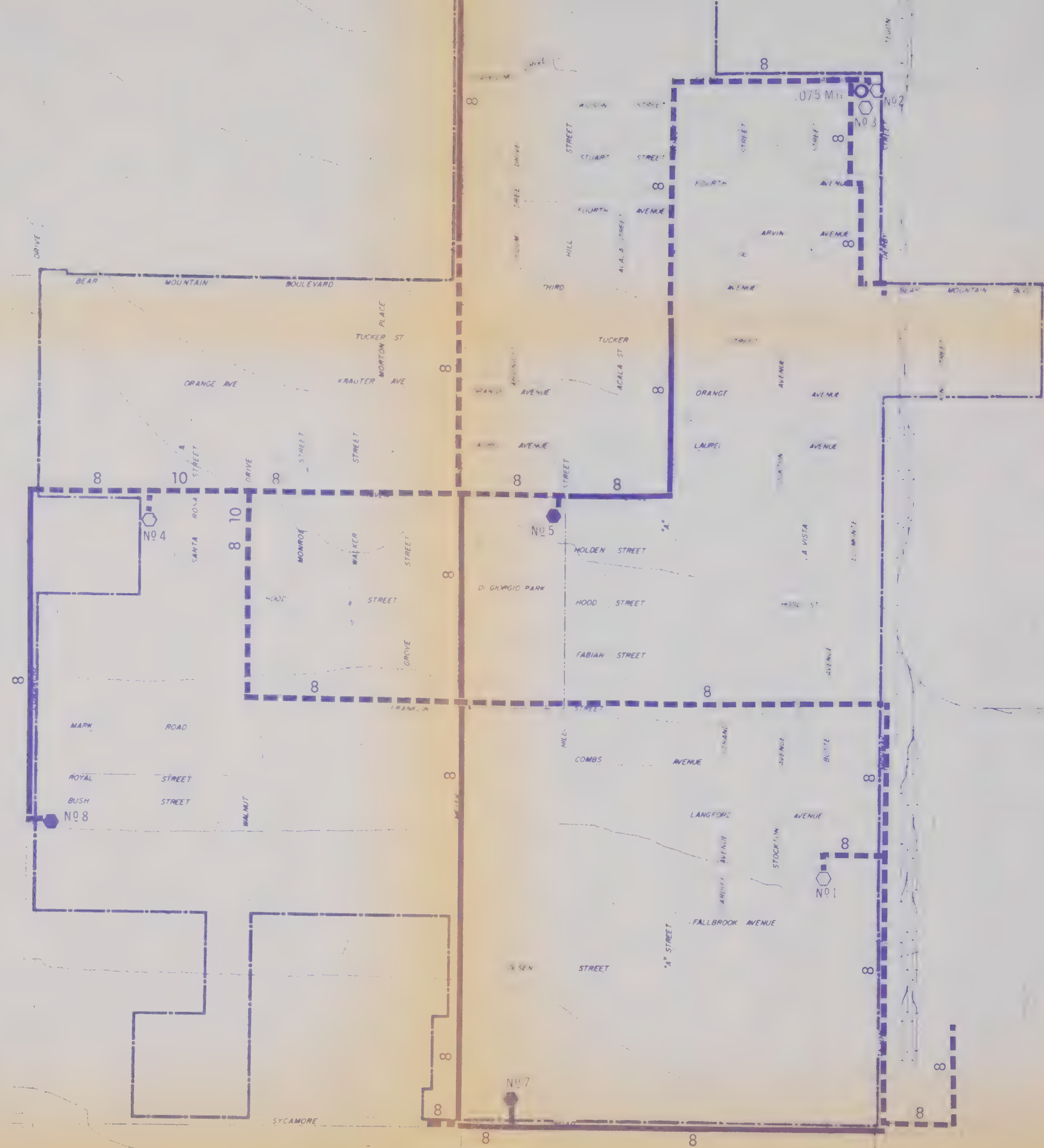
LEGEND

- Existing Water Lines, 8" and larger
- Proposed Water Lines, 8" and larger
- Existing Storage Facilities
- Existing Water Wells
- Proposed Water Wells

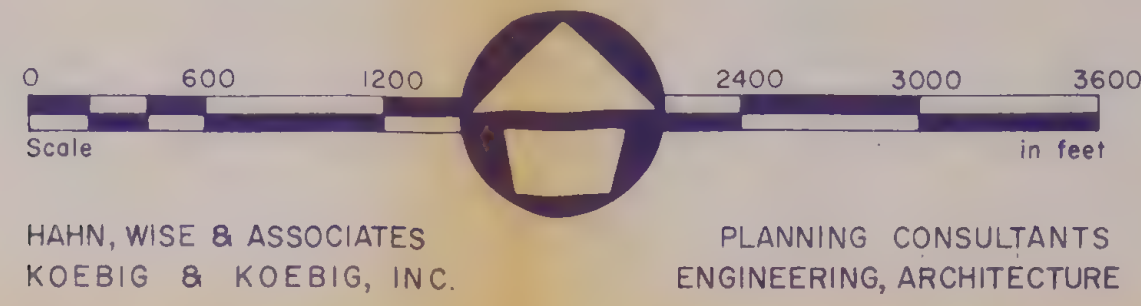
SUNSET

HOLLYWOOD

VANDERS



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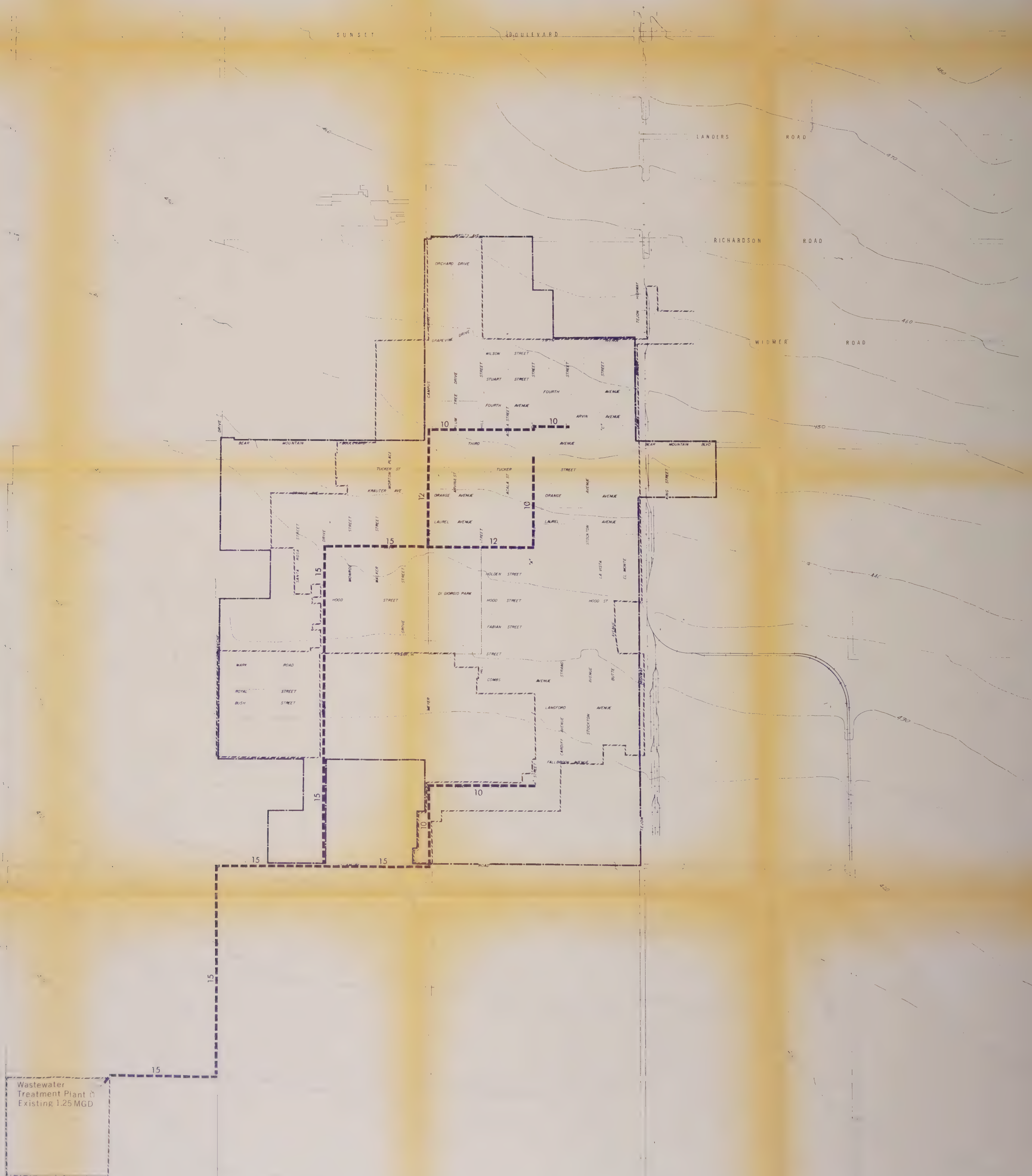


GENERAL PLAN

**PRINCIPAL FACILITIES OF
YEAR 2000 WASTEWATER SYSTEM**

LEGEND

- Arvin County Sanitation District Boundaries
--- Existing Wastewater Collectors, 10" and larger



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**PRINCIPAL FACILITIES OF
YEAR 2000 WASTEWATER SYSTEM**

LEGEND

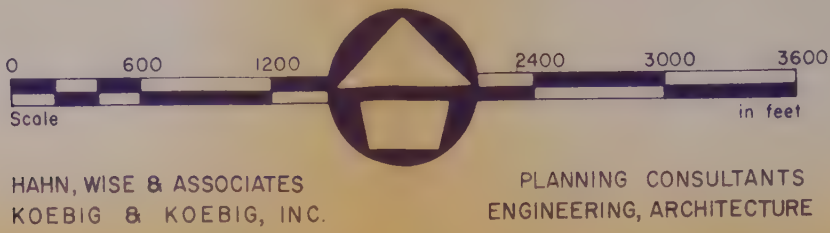
- Arvin County Sanitation District Boundaries
----- Existing Wastewater Collectors, 10" and larger



Wastewater
Treatment Plant
Existing 1.25 MGD



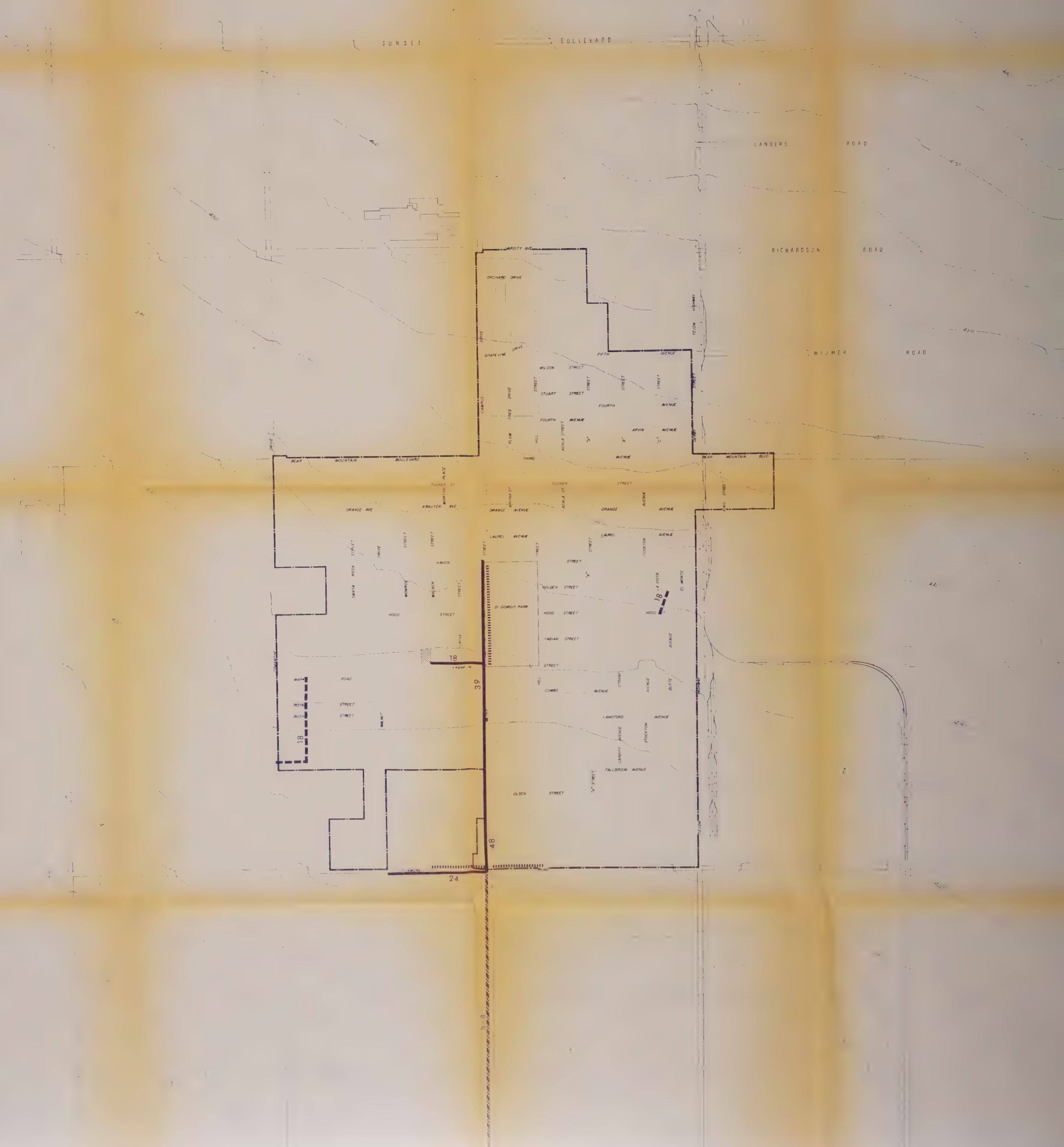
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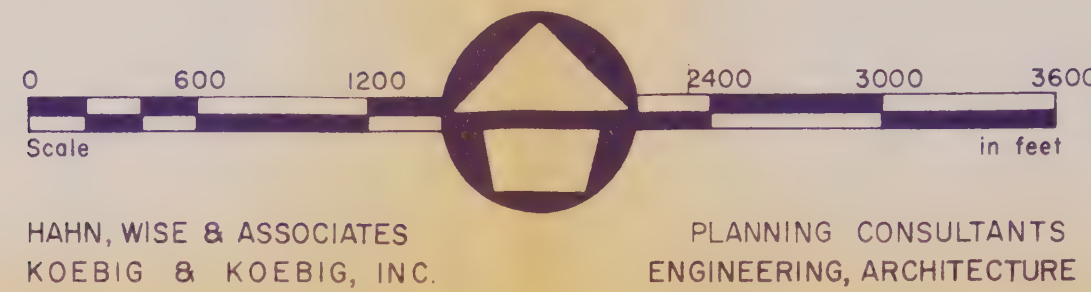
GENERAL PLAN
PRINCIPAL FACILITIES OF
YEAR 2000 DRAINAGE SYSTEM

LEGEND

- Existing Closed Conduit
- Proposed Closed Conduit
- Existing Open Channel
- Proposed Open Channel
- Existing Sump



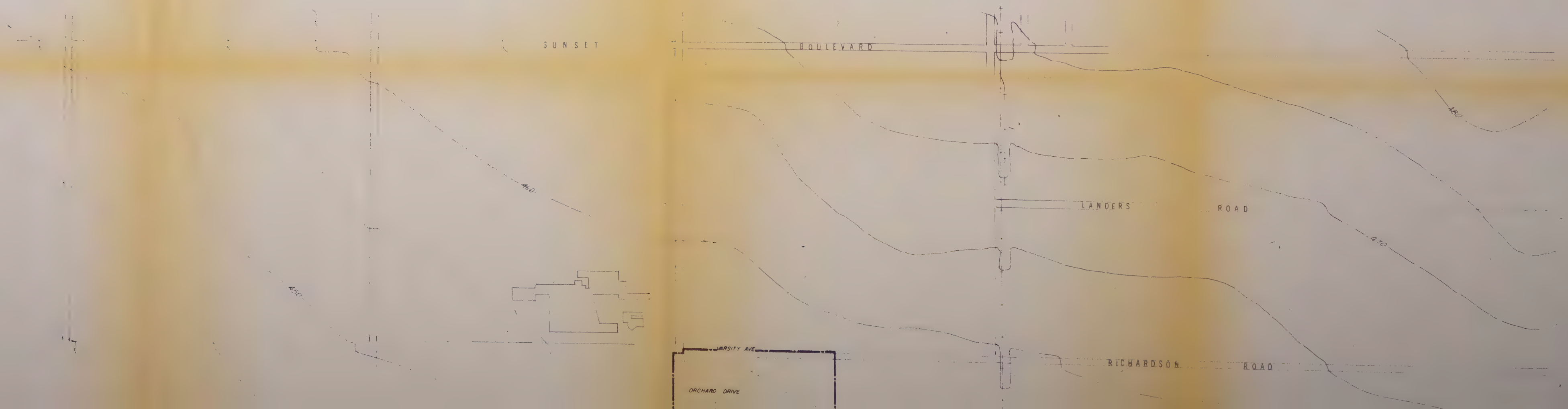
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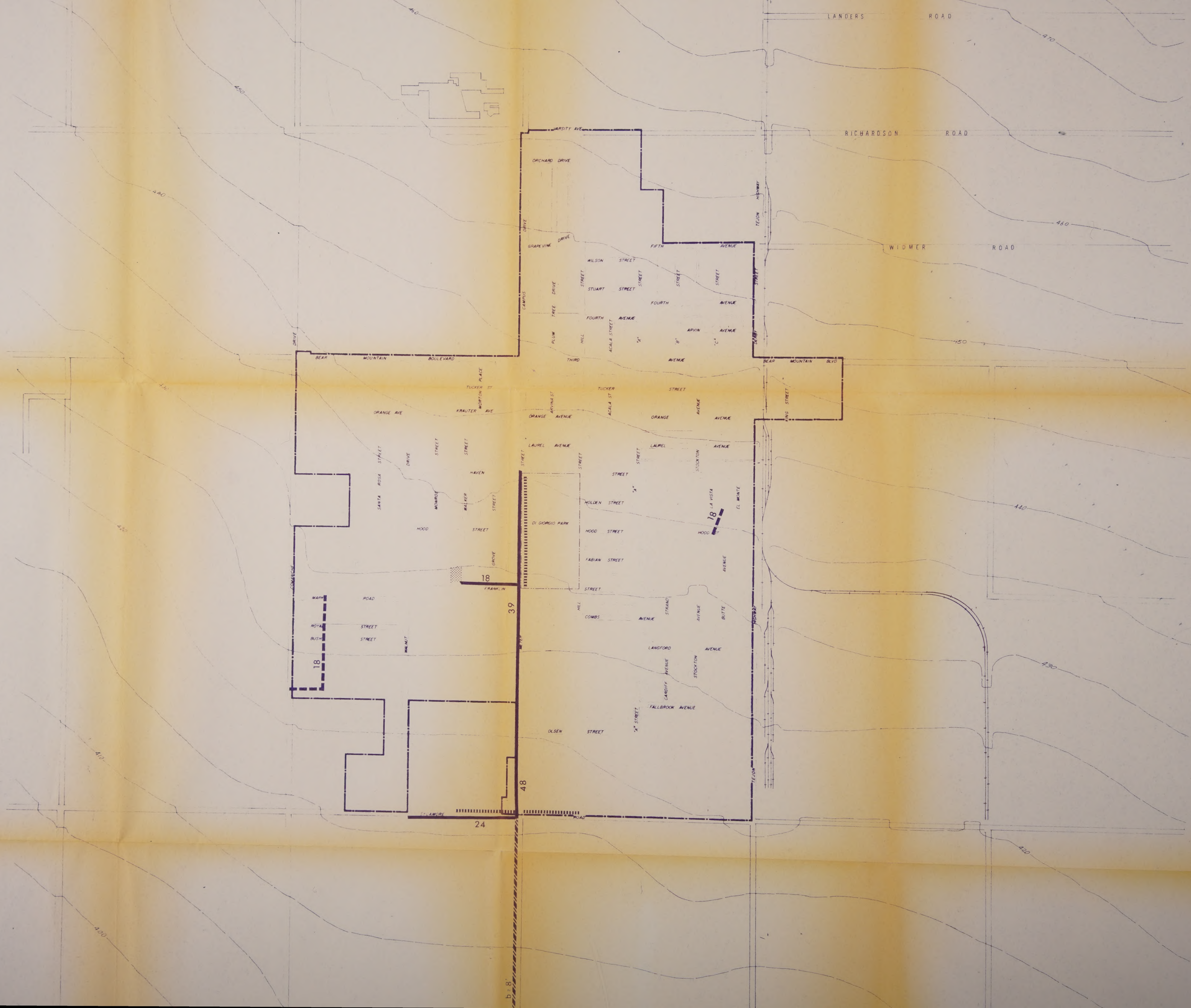


GENERAL PLAN
PRINCIPAL FACILITIES OF
YEAR 2000 DRAINAGE SYSTEM

LEGEND

-----	Existing Closed Conduit
————	Proposed Closed Conduit
.....	Existing Open Channel
////	Proposed Open Channel
	Existing Sump





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